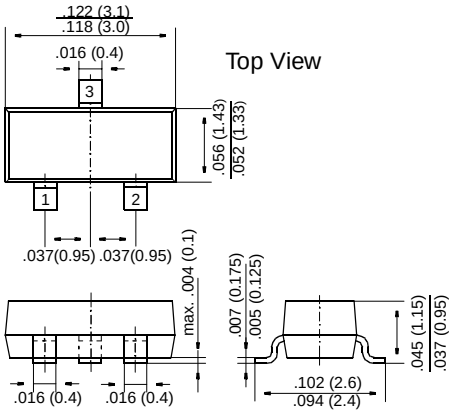
BF820, BF822

Small Signal Transistors (NPN)

SOT-23



Dimensions in inches and (millimeters)

Pin configuration
1 = Base, 2 = Emitter, 3 = Collector.

FEATURES

- NPN Silicon Epitaxial Planar Transistors especially suited for application in class-B video output stages of TV receivers and monitors.
- As complementary types, the PNP transistors BF821 and BF823 are recommended.

MECHANICAL DATA

Case: SOT-23 Plastic Package
Weight: approx. 0.008 g
Marking code
BF820 = 1V
BF822 = 1X

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Value	Unit
Collector-Base Voltage	**BF820** **BF822**	V_{CBO} V_{CBO}	300 250	V V
Collector-Emitter Voltage	**BF822**	V_{CEO}	250	V
Collector-Emitter Voltage	**BF820**	V_{CER}	300	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	50	mA
Peak Collector Current		I_{CM}	100	mA
Power Dissipation at T_{SB} = 50 °C		P_{tot}	300[1)]	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_S	–65 to +150	°C

[1)] Device on fiberglass substrate, see layout

GENERAL SEMICONDUCTOR®

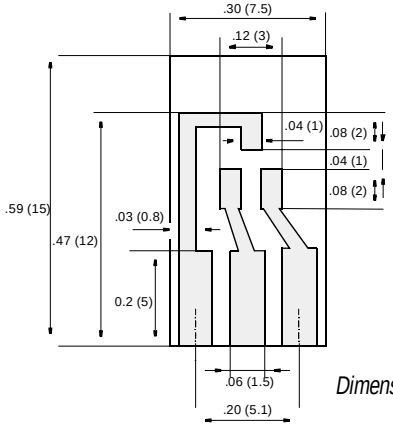
BF820, BF822

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage **BF820** at I_C = 100 µA, I_B = 0 **BF822**	$V_{(BR)CBO}$ $V_{(BR)CBO}$	300 250	– –	– –	V V
Collector-Emitter Breakdown Voltage **BF822** at I_C = 10 mA, I_E = 0	$V_{(BR)CEO}$	250	–	–	V
Collector-Emitter Breakdown Voltage **BF820** at R_{BE} = 2.7 kΩ, I_C = 10 mA	$V_{(BR)CER}$	300	–	–	V
Emitter-Base Breakdown Voltage at I_E = 100 µA, I_B = 0	$V_{(BR)EBO}$	5	–	–	V
Collector-Base Cutoff Current at V_{CB} = 200 V, I_E = 0	I_{CBO}	–	–	10	nA
Collector-Emitter Cutoff Current at R_{BE} = 2.7 kΩ, V_{CE} = 250 V at R_{BE} = 2.7 kΩ, V_{CE} = 200 V, T_j = 150 °C	 I_{CER} I_{CER}			 50 10	 nA µA
Collector Saturation Voltage at I_C = 30 mA, I_B = 5 mA	V_{CEsat}	–	–	0.6	V
DC Current Gain at V_{CE} = 20 V, I_C = 25 mA	h_{FE}	50	–	–	–
Gain-Bandwidth Product at V_{CE} = 10 V, I_C = 10 mA	f_T	60	–	–	MHz
Feedback Capacitance at V_{CE} = 30 V, I_C = 0, f = 1 MHz	C_{re}	–	–	1.6	pF
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	430[1)]	K/W

[1)] Device on fiberglass substrate, see layout



Dimensions in inches (millimeters)

Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

GENERAL SEMICONDUCTOR®